SECTION 1. INTRODUCTION

1.1. Test Purpose

Valid Results (VR) was contracted by the Ash Grove Cement Company to perform compliance testing, for Particulate Matter (PM) and visible emissions, on two Coal Mill exhaust stacks located at the Portland cement manufacturing facility in Seattle, Washington. Visible emissions tests were also performed on two Coal Feeders, the Raw Coal Silo and the PF Bin.

1.2. Test Location

PM testing was conducted on each coal mill exhaust stack. Two 4-inch sample ports are located on each "16.875 inch" outlet stack, 22.8 inside stack diameters upstream and 9.2 inside stack diameters downstream from the nearest flow disturbance. A diagram of each stack can be found in Appendix F.

1.3. Test Date(s)

Testing was conducted on October 13th and 14th, 2004 and December 3rd & 4th, 2004. Testing was originally scheduled for October 5th and 6th, 2004, but was postponed due to operational difficulties.

1.4. Parameters Tested

The following parameters were measured during the test program:

Parameters	Test Methods	Replicates	Duration
Sample Points	EPA 1	1	N/A
Velocity	EPA 2	3	120-minutes
Molecular Weight	EPA 3	3	120-minutes
Moisture	EPA 4	3	120-minutes
PM	EPA 5	3	120-minutes
Visible Emissions	EPA 9	1	180-minutes

1.5. Sampling and Observing Personnel

PM testing was performed by David Wagner and Erik Tucker with VR. Visible Emissions testing was performed by Tracy Prevo, Scott Chesnut and David Wagner with VR. Gerald Brown with the Ash Grove Cement Company coordinated the test program.

The testing program was for compliance purposes. The Puget Sound Clean Air Agency (PSCAA) was notified and received a test plan about the testing at least 30 days in advance. Mr. Fred Austin and Ms. Elizabeth Gilpin with the PSCAA were present on October 5th, 2004. No PSCAA representative was present to witness the testing on October 13th and 14th, 2004 or December 3rd and 4th, 2004.

1.6. Other Important Background Information

Testing was performed under maximum (full kiln) operating conditions for the facility.

SECTION 2. SUMMARY OF RESULTS

2.1. Test Results

Table 2.1-1 Coal Mill Stacks #1 and #2:

Parameter	Coal Mill #1	Coal Mill #2	Limit
Coal Feed Rate			
Tons per Hour	6.21	5.15	
Flow Rate			
Feet per Second	76.98	88.96	
Dry Standard Cubic Feet per Minute	5,490	6,201	
Fixed Gases			
O_2, %	13.5	13.7	
CO_2, %	11.5	11.4	
Moisture			
B_{ws}, %	8.92	9.77	
Particulate Matter*			
Grains per dscf	**0.0024**	**0.0021**	**0.031**
Pounds per Hr	0.11	0.11	
Tons per Year	0.49	0.50	
Visible Emissions**			
Opacity, %	**1.25**	**2.50**	**20**

* PM test results represent the average of three two-hour test runs.
** Visible emissions test results represent the highest 6-minute average of one three-hour test.

Table 2.1-2 Coal Feeder #1 & #2, Raw Coal Silo and PF Bin:

Parameter	Coal Feeder #1	Coal Feeder #2	Raw Coal Silo	PF Bin	Limit
Visible Emissions**					
Opacity, %	**0**	**0**	**1**	**0**	**20**

** Visible emissions test results represent the highest 6-minute average of one three-hour test.

2.2. Process Data

The unit operating data average reports for each test run are contained in Appendix D.

2.3. Comments: Discussion of Quality Assurance and Variations

All of the quality assurance procedures listed in the above referenced test methods and referenced in the Source Test Plan were performed and documented. The QA/QC procedures are described in Section 4.3 of the report. Documentation of the QA/QC is provided in Appendix E.